

vehicle, and/or a pair of virtual reality goggles. The network adapter 216 couples the computer 200 to the network 114.

[0028] The types of computers 200 utilized by the entities of FIG. 1 can vary depending upon the embodiment and the processing power required by the entity. A map server 110 and/or metrics server 112 might be provided by a web server running on a powerful computer system comprising one or more blade servers operating in tandem. In contrast, a client 116 might contain a single processor 202 and have a relatively small storage device 208. In many instances the computer lacks one or more of the elements shown in FIG. 2, such as a keyboard 210, pointing device 214, graphics adaptor 212, and/or display device 218.

[0029] As is known in the art, the computer 200 is adapted to execute computer program modules. As used herein, the term "module" refers to computer program logic and/or data for providing the specified functionality. A module can be implemented in hardware, firmware, and/or software. In one embodiment, the modules are stored on the storage device 208, loaded into the memory 206, and executed by the processor 202.

[0030] FIG. 3 is a high-level block diagram illustrating modules within the metrics server 112 according to one embodiment. Other embodiments have different and/or additional modules than the ones shown in the figure. In addition, other embodiments distribute the functionalities among the modules in a different manner. Further, in some embodiments functionalities attributed to the metrics server 112 are performed by other entities such as the map server 110 and/or the clients 116.

[0031] A metrics data storage module 310 stores data describing attributes of the areas on the maps produced by the map server 110 (i.e., "metrics"). As mentioned above, the types of metrics data stored by the storage module 310 can vary depending upon the embodiment. Metrics data can include, for example, demographic, psychographic, and/or other statistical data describing a population of a region, boundary data describing governmental and quasi-governmental boundaries, cost information describing costs of living, real estate values, and fuel costs, traffic and weather data describing traffic congestion, average temperatures, and air quality, location data describing locations of entities such as offices, commercial centers, schools, religious facilities, hospitals and public transportation, and miscellaneous information describing attributes like average noise, locations of registered sexual offenders, whether ocean views are available from a location etc. Other embodiments store different and/or additional metrics data.

[0032] Some metrics are static while others are dynamic. For example, certain metrics, like locations of schools, change infrequently and can be considered static. Other metrics, like current traffic congestion on a road, are dynamic and may change frequently.

[0033] In addition, some metrics are explicitly described by the metrics data, while some metrics are computed from other metrics. Explicit metrics are metrics that are used in their current form. For example, the metrics data may explicitly specify locations of schools and businesses, home values, and crime rates within a region.

[0034] Computed metrics, in contrast, are derived from other explicit and/or computed metrics. For example, the cost of traveling between two points may be computed based on the distance between the points, average fuel costs for the region, and current or historical traffic congestion. Likewise,

the average housing prices for a city may be calculated from average prices of smaller units (e.g., ZIP codes) that are explicitly described by other metrics, and whether a location has ocean views may be calculated based on the distance to an ocean, topographical data, and/or data describing the heights of adjacent buildings. These computed metrics are derived by applying functions to other metrics. Similarly, some computed metrics are based on whether conditions are satisfied by one or more other metrics. For example, a metric can indicate whether an area is within five minutes walking distance of a school, within a 10 minute drive to a commercial district, and has average home processes of less than \$500K. In some embodiments, computed metrics are not stored by the metrics data storage module 310 but rather are computed in real time by the mapping engines 118.

[0035] In one embodiment, at least some of the metrics data stored by the storage module 310 are derived from information accessible on the network 114. Certain types of information, such as demographic and weather information, are widely available on the World Wide Web and via other network-accessible electronic documents. Some metrics data stored by the storage module 310 are provided by commercial data providers and might not be publicly-accessible. Other metrics data stored by the storage module 310 are provided by end-users of the clients 116. For example, noise data describing the average noise of a geographic location can be submitted by an end-user familiar with the location.

[0036] A template storage module 312 stores templates describing what metrics to display on a map. That is, a template describes one or more metrics to include on a map when the template is applied to the map. A template describes a computed metric by specifying how to derive the metric from other metrics. For example, a template can indicate that explicit school district boundaries are shown on maps viewed using the template, and that the distance from the center of the map to the nearest school is also shown. In one embodiment, the template further describes how the metric is to be displayed. For example, the metric can be displayed as a raw number, as a vector arrow on the map, as a bar graph, as images or 3-D models, etc. In one embodiment, each template in the template storage module 312 is identified by a name or other unique identifier. In an embodiment where there are multiple metrics servers 112, a template specifies the network address of the server that provide the metrics data.

[0037] In one embodiment, the templates in the storage module 312 are designed for pre-specified tasks. For example, a "home finding" template is designed to assist an end-user in shopping for a new house and references metrics geared to that task. These metrics include, for example, average real estate prices, average education levels, crime rates, distances to locations like commercial districts, schools, and workplaces, noise levels, etc. Other tasks for which templates may exist include vacation planning, job searching, school searching, etc.

[0038] In one embodiment, the templates in the template storage module 312 are created by an administrator and/or other person associated with the metrics server 112 and/or map sever 110. For example, engineers associated with the metrics server 112 develop templates for certain tasks and store the templates in the storage module 312. In some embodiments, one or more of the templates are created by end-users of the clients 116. The end-users create templates